

What is claimed is:

- 1 1. A tunable imaging sensor, comprising:
 - 2 a housing;
 - 3 a lens plate attached to a front of said housing;
 - 4 a filter plate inside said housing adjacent said lens plate;
 - 5 a camera plate inside said housing adjacent said filter plate;
 - 6 a plurality of imagers mounted on said camera plate;
 - 7 a plurality of lenses mounted on said lens plate;
 - 8 a plurality of filters mounted on said filter plate;
 - 9 said lens plate, said filter plate, and said camera plate being aligned such that radiation
 - 10 passing through one of said lenses passes through one of said plurality of filters onto one of said
 - 11 imagers.
- 1 2. A sensor according to claim 1, wherein said plurality of imagers consists of four imagers,
- 2 said plurality of lenses consists of four lenses, and said plurality of filters consists of four filters.
- 1 3. A sensor according to claim 2, wherein at least two of said four filters are each sensitive
- 2 to a different wavelength of radiation.
- 1 4. A sensor according to claim 2, wherein at least two of said four filters are each sensitive
- 2 to a different form of radiation.
- 1 5. A sensor according to claim 2, wherein said plurality of imagers are CMOS imagers.
- 1 6. A sensor according to claim 1, wherein said filter plate is rotatable such that rotating said
- 2 filter plate brings a different one of said plurality of filters into alignment with one of said lenses
- 3 and one of said imagers.
- 1 7. A sensor according to claim 6, wherein said plurality of imagers consists of four imagers,
- 2 said plurality of lenses consists of four lenses, and said plurality of filters consists of sixteen
- 3 filters.

- 1 8. A sensor according to claim 7, wherein rotating said filter plate brings a different group
2 of four filters into alignment with said plurality of lenses and said plurality of imagers.
- 1 9. A sensor according to claim 8, wherein said filter plate is connected to a shaft of a stepper
2 motor.
- 1 10. A tunable imaging sensor system, comprising:
2 a housing;
3 first means for mounting a plurality of lenses in said housing;
4 second means for mounting a plurality of filters adjacent said plurality of lenses in
5 said housing;
6 third means for mounting a plurality of imagers adjacent said plurality of filters in
7 said housing;
8 wherein said first means, said second means, and said third means are aligned such
9 that radiation passing through one of said lenses passes through one of said plurality of filters
10 onto one of said imagers.
- 1 11. A system according to claim 10, further comprising:
2 a computer including a frame grabber which receives a plurality of outputs from said
3 plurality of imagers; and
4 a synchronization and communications circuit connecting a communications adapter
5 in said computer to said plurality of imagers.
- 1 12. A system according to claim 11, in which said computer includes means for processing
2 said plurality of outputs from said plurality of imagers.
- 1 13. A system according to claim 12, wherein said plurality of imagers consists of four
2 imagers, said plurality of lenses consists of four lenses, and said plurality of filters consists of
3 sixteen filters.
- 1 14. A system according to claim 13, wherein rotating said second means brings a different
2 group of four filters into alignment with said plurality of lenses and said plurality of imagers.

1 15. A system according to claim 14, wherein said second means is connected to a shaft of a
2 stepper motor, and said stepper motor is controlled by said computer.